

CLAIMS

We Claim:

1. A multi-ply product comprising:
at least two plies, each ply having at least one interior surface;
a chemical additive applied to at least one of the interior surfaces;
a plurality of crimping bond depressions holding the at least two plies together; and
wherein the chemical additive is applied to the at least one interior surface such that the chemical additive resides on an upper concave side of the crimping bond depression.
2. A multi-ply tissue product comprising:
a first outer ply, a middle ply, a second outer ply, and each ply having at least one interior surface;
a chemical additive applied to one interior surface of the middle ply;
a plurality of crimping bond depressions holding the three plies together; and
wherein the chemical additive resides on an upper concave side of the crimping bond depression on the middle ply.
3. The product of claim 1 or 2 wherein the chemical additive comprises a virucidal chemical additive.
4. The product of claim 3 wherein the virucidal chemical additive comprises sodium lauryl sulfate and citric acid.
5. The product of claim 1 or 2 wherein the chemical additive comprises polysiloxane.
6. The product of claim 1 wherein the plies comprise tissue paper.
7. The product of claim 1 or 2 wherein the crimping bond depressions comprise an oval shape.
8. The product of claim 1 or 2 wherein the crimping bond depressions comprise a diamond shape.
9. The product of claim 2 or 3 wherein a Strength Ratio of the First-Side to the Second-Side is between about 0.8 to about 1.2.
10. The product of claim 9 wherein the Strength Ratio is between about 0.9 to about 1.1.
11. The product of claim 1 wherein a Ply Attachment Strength for separating the at least one interior surface with the applied chemical additive from another ply is about 30 grams or greater.

12. The product of claim 1 wherein a Ply Attachment Strength for separating the at least one interior surface with the applied chemical additive from another ply is about 40 grams or greater.
13. The product of claim 1 wherein a Ply Attachment Strength for separating the at least one interior surface with the applied chemical additive from another ply is between about 30 grams to about 100 grams.
14. The product of claim 1 wherein a Ply Attachment Strength for separating the at least one interior surface with the applied chemical additive from another ply is between about 30 grams to about 70 grams.
15. A method comprising:
 - combining at least two plies to form a multi-ply web, each ply having at least one interior surface;
 - applying a chemical additive to at least one interior surface of one ply;
 - orienting the interior surface with the applied chemical additive to face a plurality of protuberances on a crimping roll; and
 - crimping the at least two plies together to form a plurality of crimping bond depressions wherein that the applied chemical additive resides on an upper surface of the crimping bond depressions.
16. The method of claim 15 wherein the multi-ply includes a first outer ply, a middle ply and a second outer ply.
17. The method of claim 16 wherein the chemical additive is applied to the middle ply.
18. The method of claim 17 wherein the chemical additive is a virucidal chemical additive.
19. The method of claim 15 further comprising a step of dropping a ply to reorient the applied chemical additive to an interior surface prior to crimping the multi-ply web.